

FIG. 1A

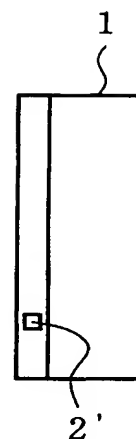


FIG. 1C

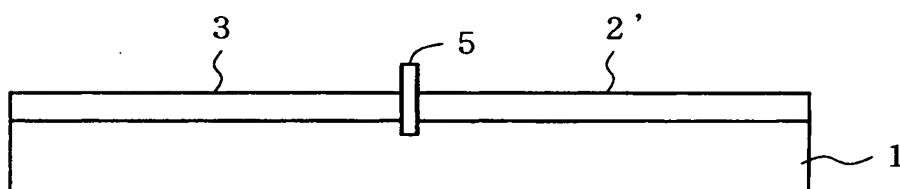


FIG. 1B

FIG.2A

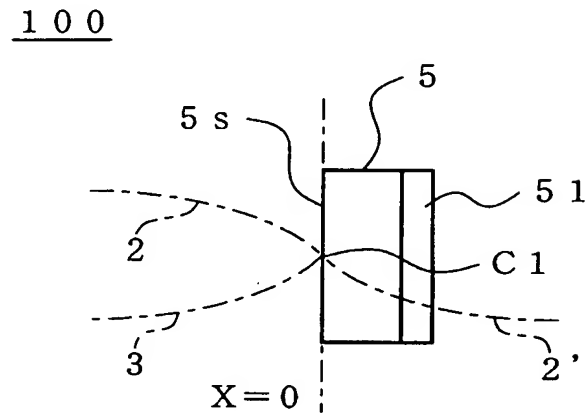


FIG.2B

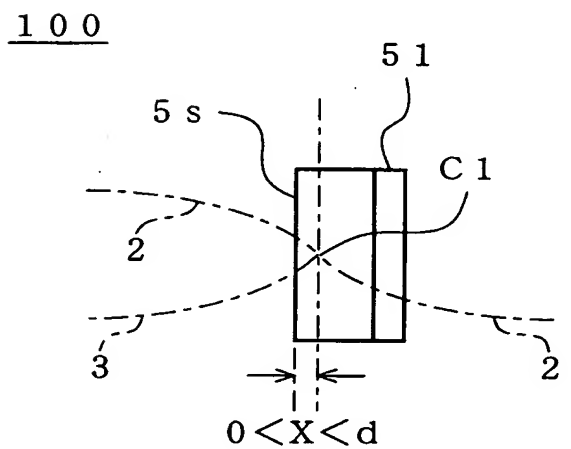
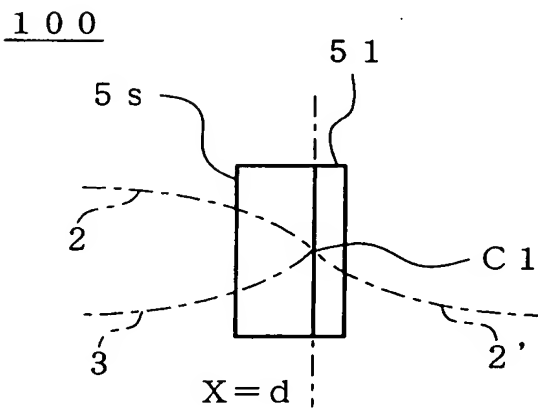


FIG.2C



100

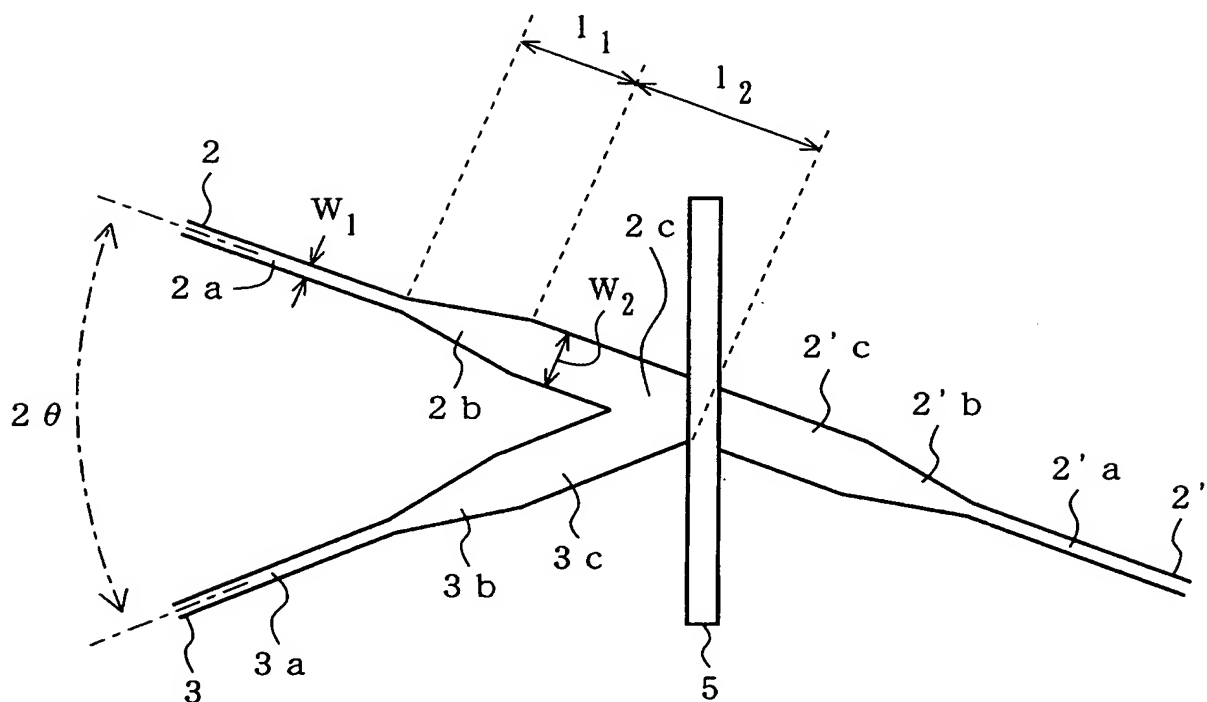


FIG.3

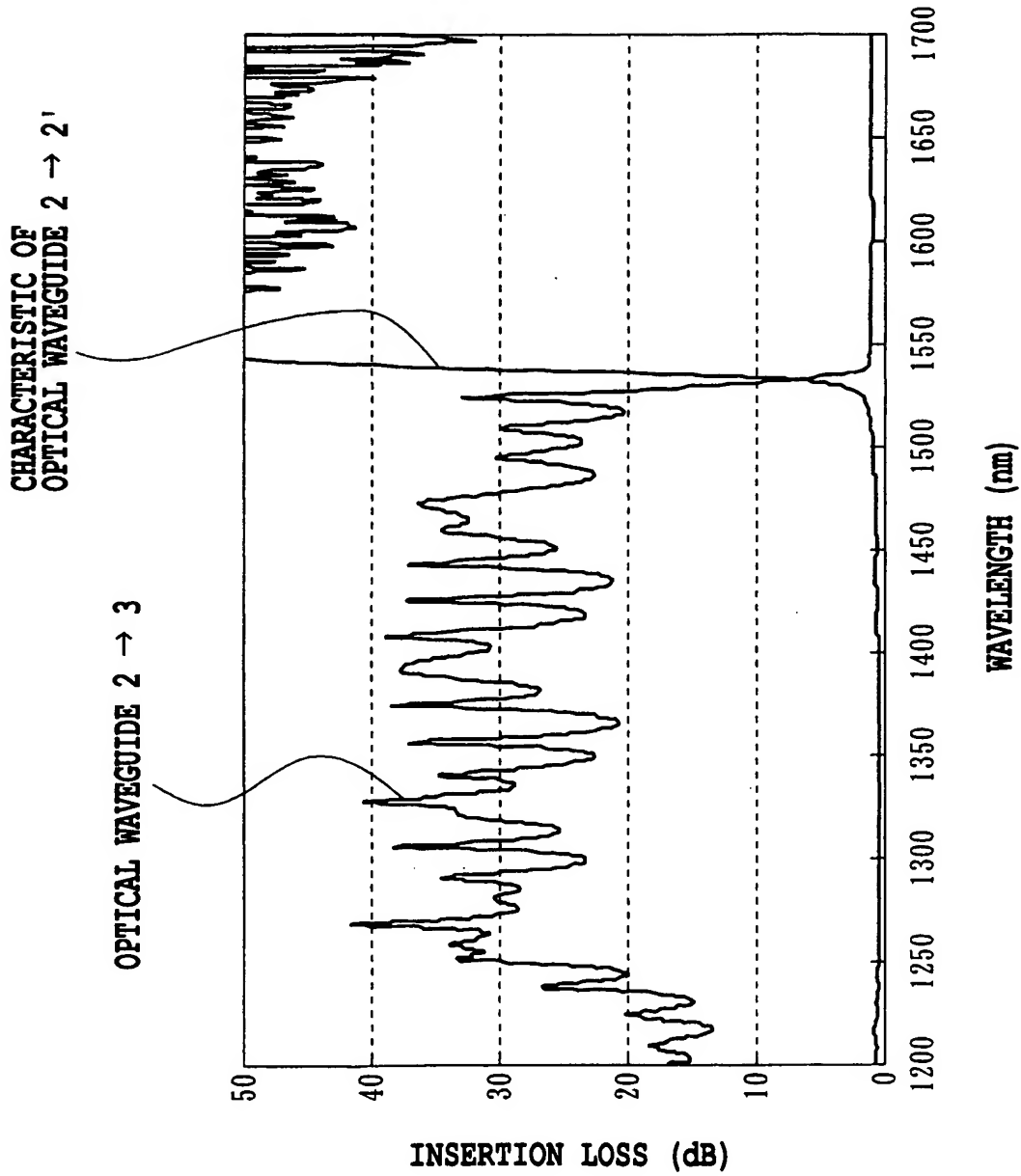


FIG.4

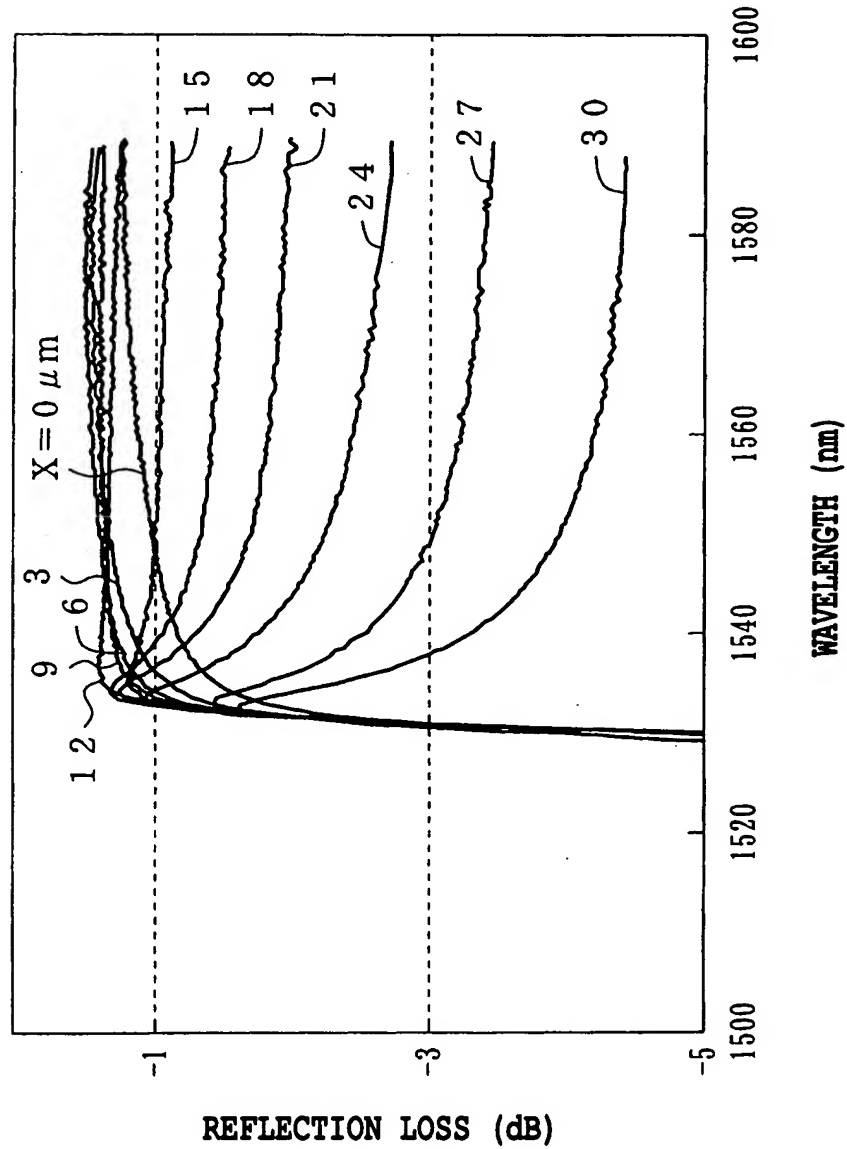


FIG.5

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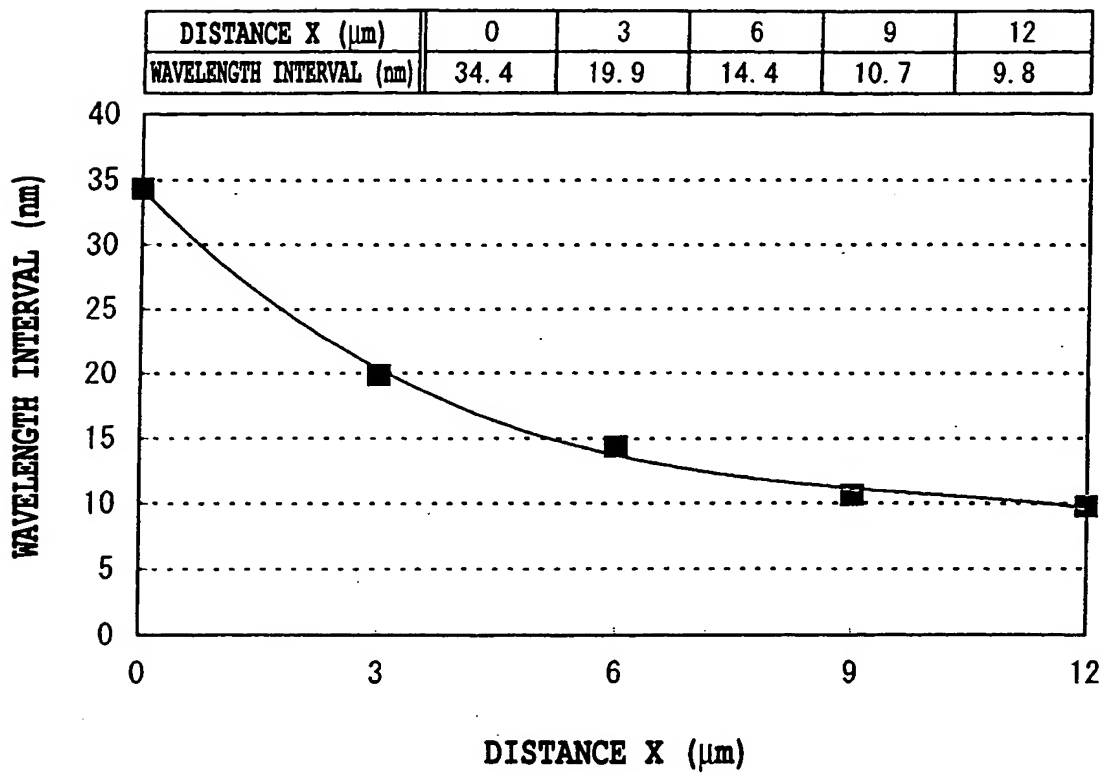


FIG.6

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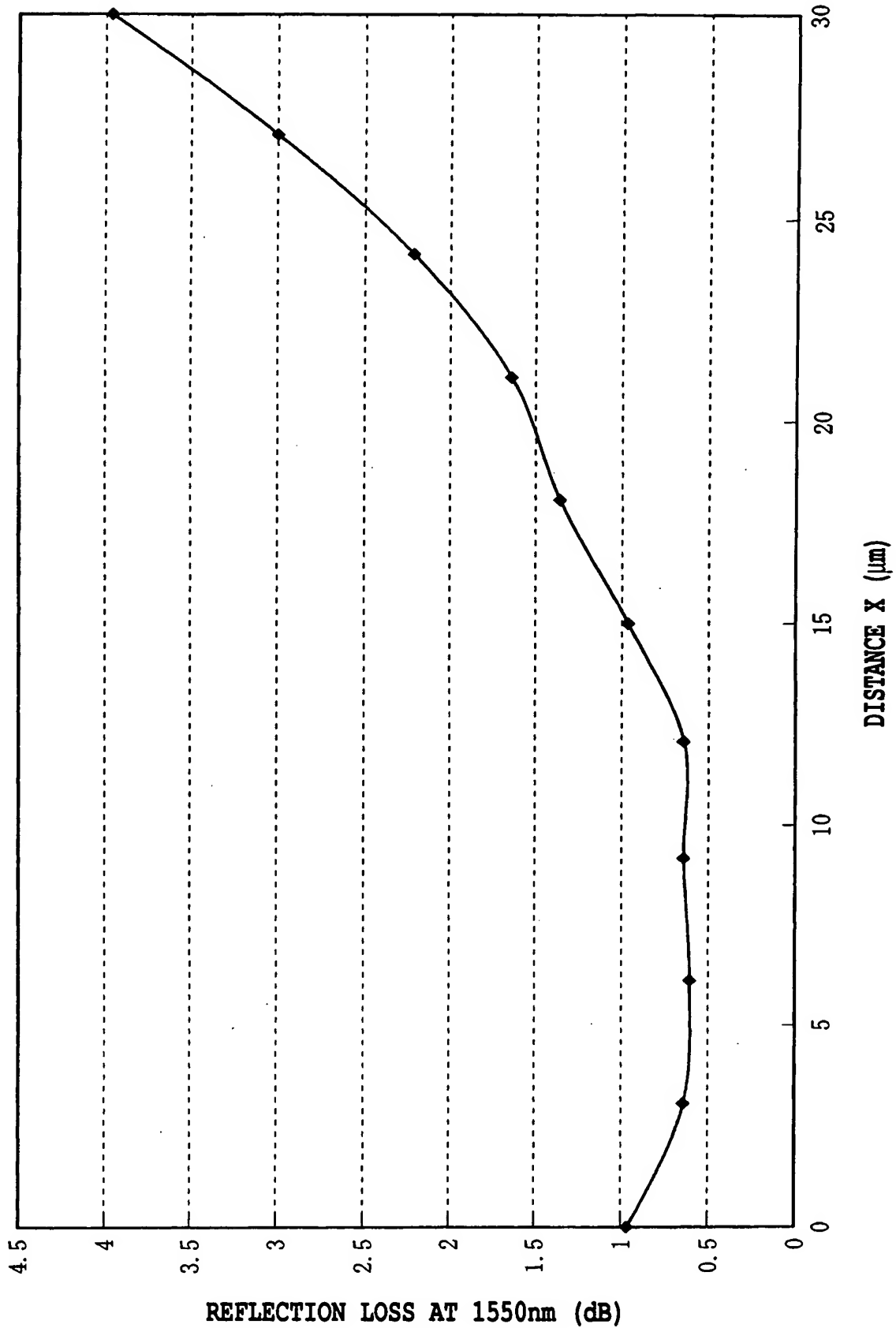


FIG.7

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INTERSECTION ANGLE WAVEGUIDE WIDTH DISTANCE X	8 DEGREES		10 DEGREES		12 DEGREES	
	8 $\mu$ m	20 $\mu$ m	8 $\mu$ m	20 $\mu$ m	8 $\mu$ m	20 $\mu$ m
0 $\mu$ m	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$
3	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
6	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
9	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
12	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
15	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$
18	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
21	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
24	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
27	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
30	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$

$\bigcirc$  : SUITABLE  
 $\times$  : UNSUITABLE

FIG.8



INTERSECTION ANGLE WAVEGUIDE WIDTH DISTANCE X	8 DEGREES		10 DEGREES		12 DEGREES	
	7 $\mu$ m	20 $\mu$ m	7 $\mu$ m	20 $\mu$ m	7 $\mu$ m	20 $\mu$ m
0 $\mu$ m	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$
4	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
8	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
12	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
16	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
20	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$	$\Delta$
24	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
28	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
32	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
36	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$
40	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$

$\bigcirc$  :SUITABLE  
 $\times$  :UNSUITABLE

FIG.9

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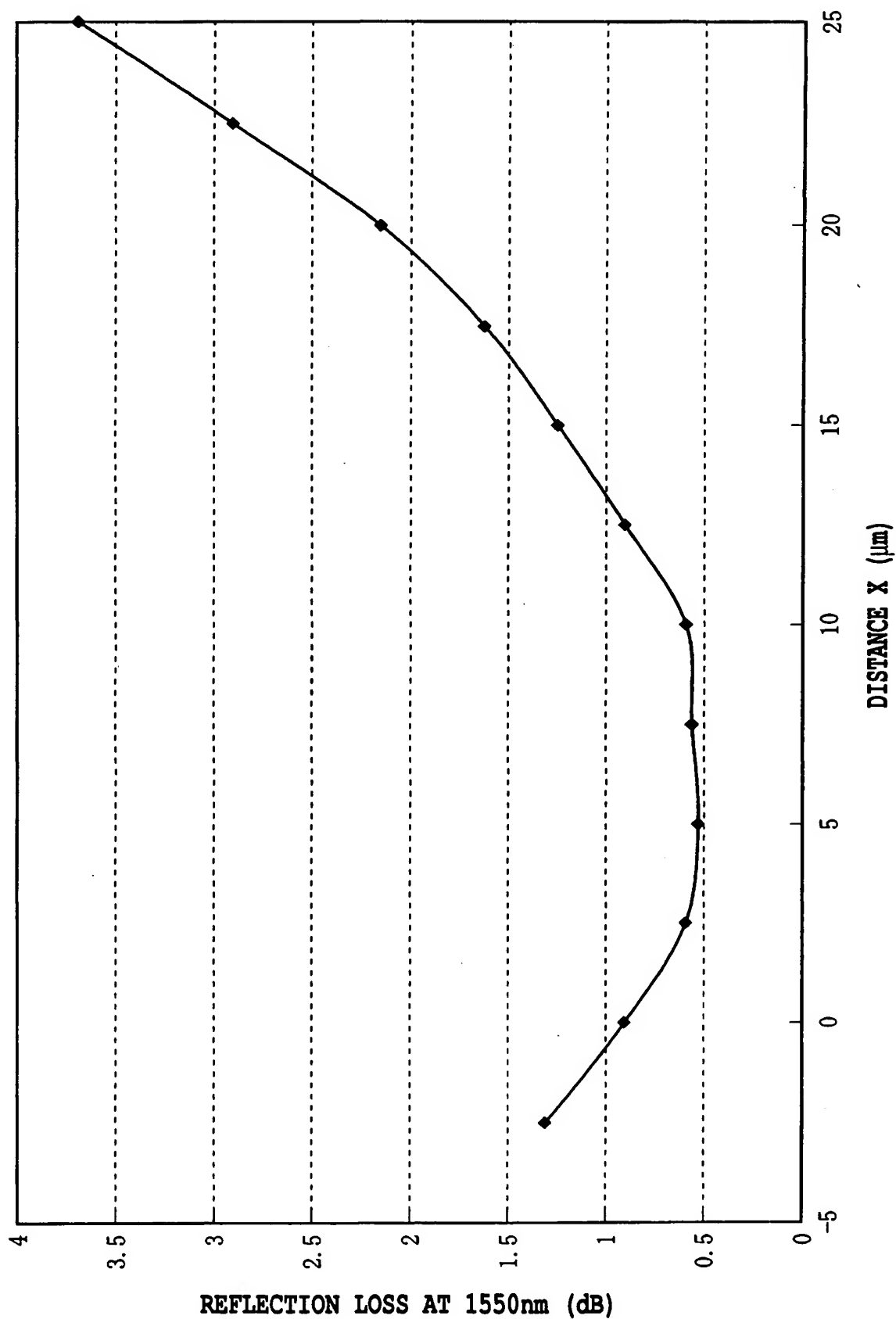


FIG.10

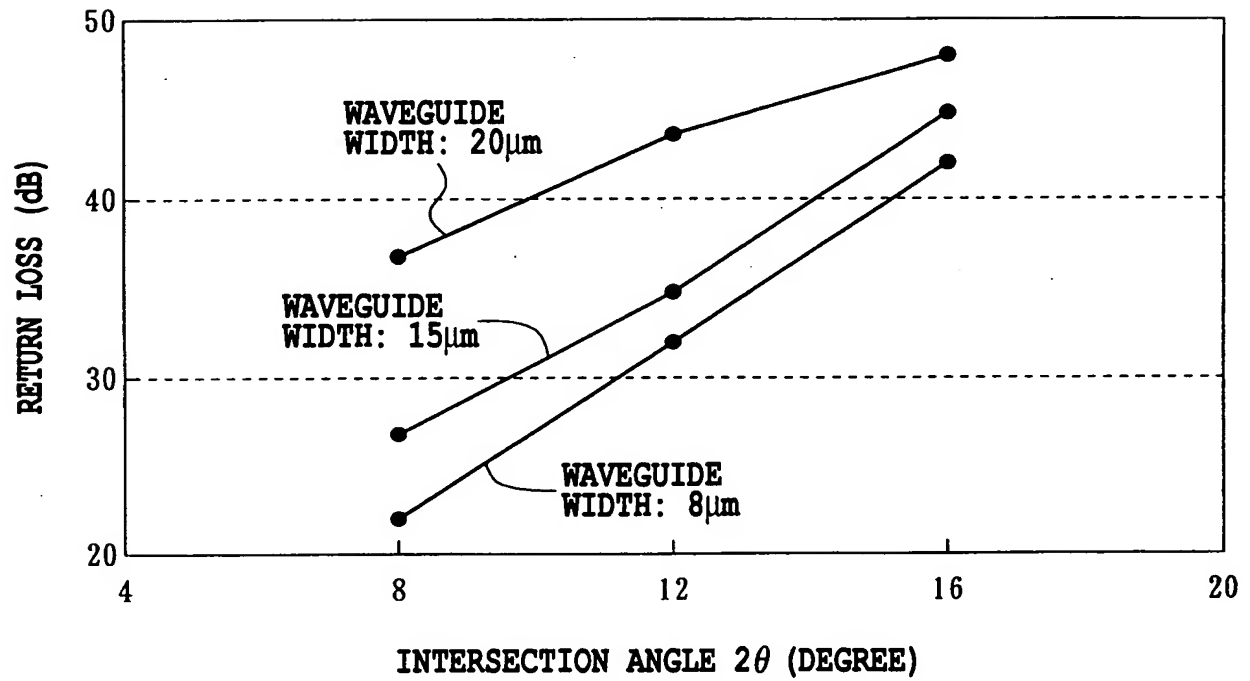


FIG.11

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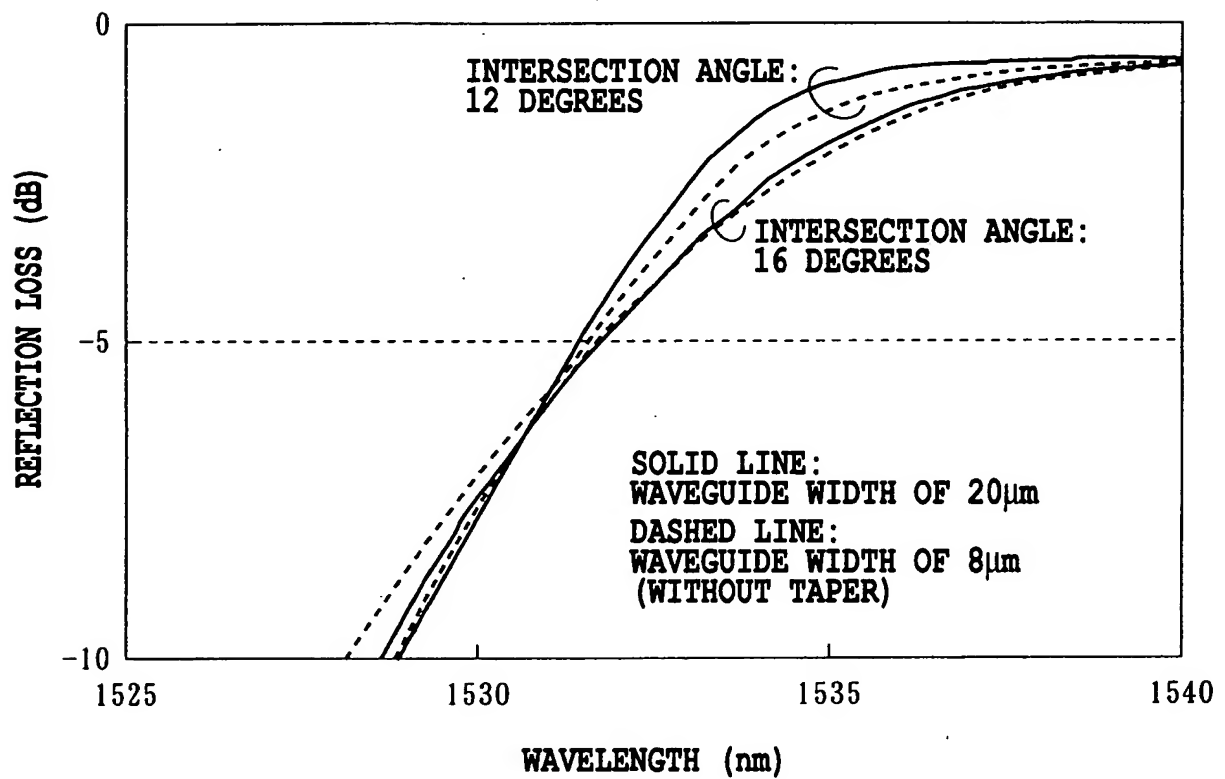


FIG.12

200

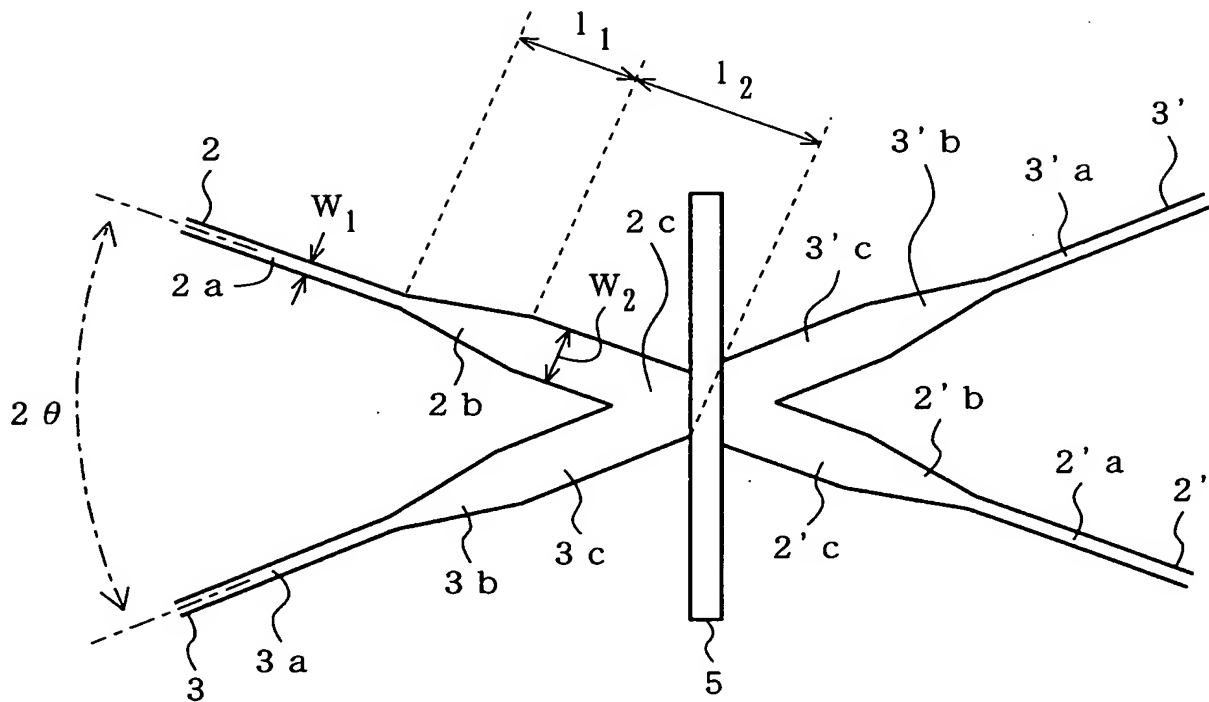


FIG.13

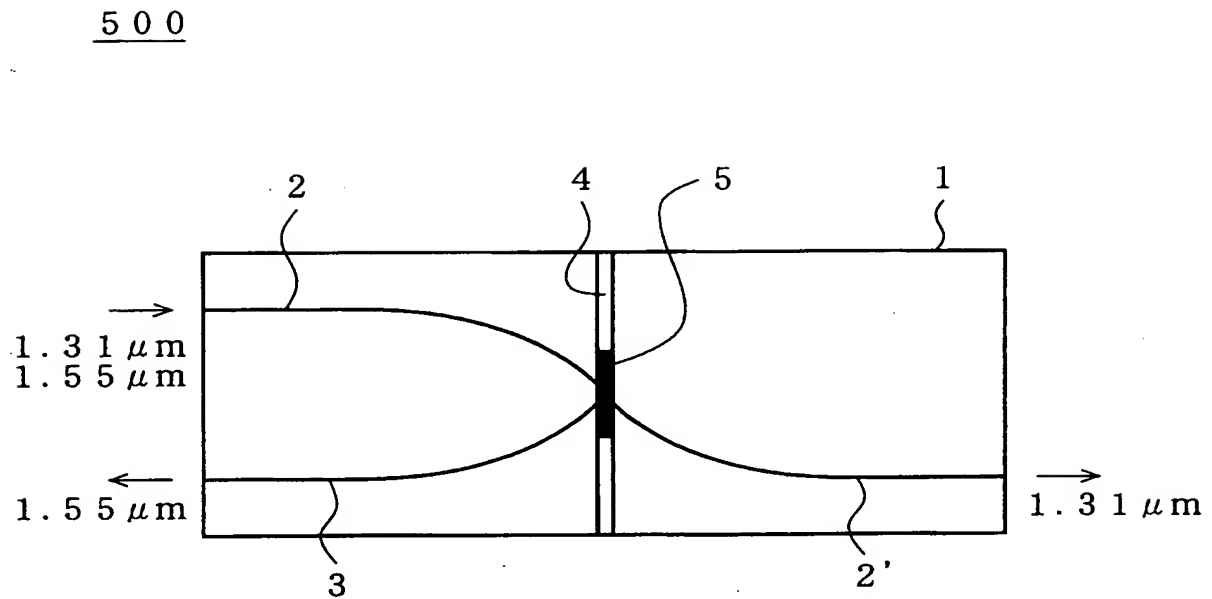


FIG.14

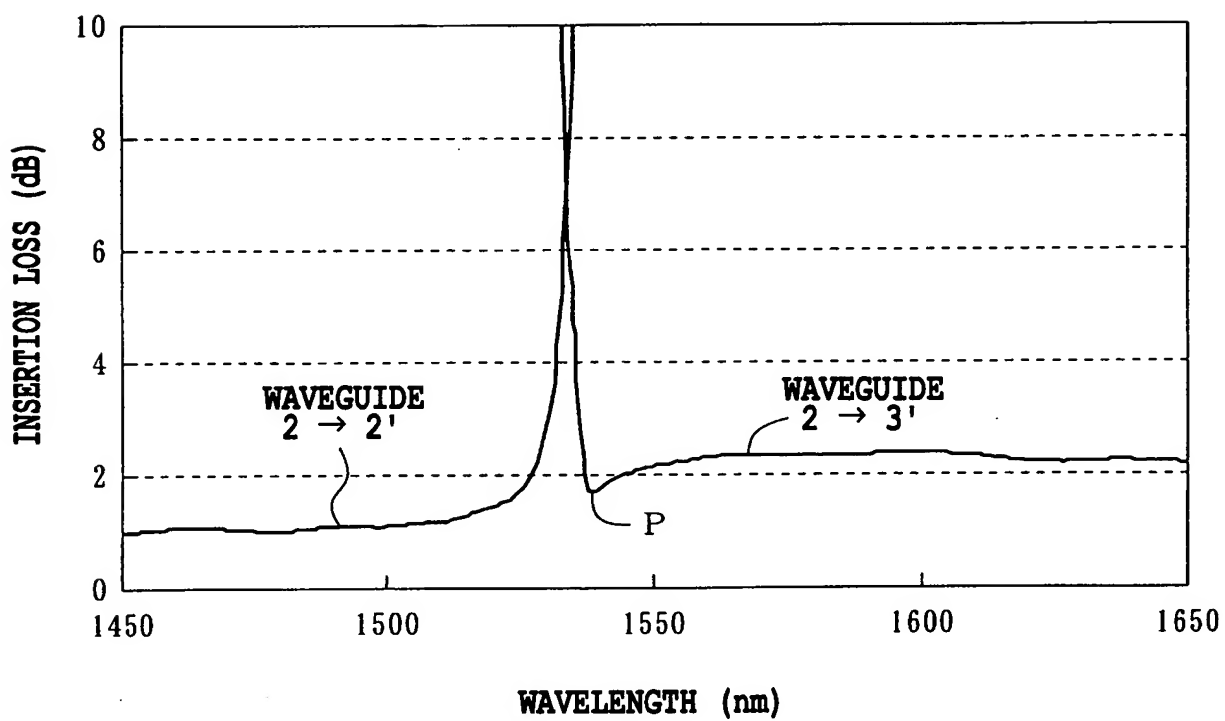


FIG.15